

### **REMARKS/ARGUMENTS**

Claims 1-5 and 13-15 remain in this application for examination.

Applicant expresses his sincere appreciation for the allowance of claims 2-5 and 14-15, however after thoroughly considering the single applied reference, Bohnert et al. '821. Applicant respectfully submits that this invention distinguishes over Bohnert et al.

Applicant's claims 1 and 13 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Bohnert et al. '821. Applicant respectfully traverses this rejection.

Bohnert et al. is directed to a pressure sensor wherein pressure is applied at locations P1 and P2 to an optical fiber which has anisotropic, pressure sensitive fiber segments 5a and 5 that are disposed between end reflectors 4a and 4b. The end reflectors 4a and 4b are Bragg gratings, but are not subject to direct fluid flow. There is a pressure differential between P1 and P2 which is detected by anisotropic portions 5a and 5b of the sensor fiber. The differences in pressure cause stresses in the optical fiber, which stresses are indicated by Bragg reflections at portions 4a and 4b of the fiber between which the portions 5a and 5b are positioned.

In Fig. 9 of Bohnert et al., a Venturi tube 32 is used to detect velocity by applying pressure differentials P1 and P2 which occur in the Venturi tube to the optical fiber 2. However in Bohnert et al. there is no fluid flow applied to the optical fiber, rather only static pressure is applied to the optical fiber.

Before pointing out why Applicant's claims, as filed, distinguish over Bohnert et al., Applicant's attorneys believe it would be beneficial to point out the basis in the disclosure which supports the distinction. The Examiner's attention is directed to Fig. 1. In Fig. 1, a grating 26 has lines 32 spaced a selected distance apart which result in Bragg angle reflections. The grating 26 is a

portion of an optical fiber 16 which is mounted on a body 38. The body 38 can be any structure such as, for example, an airfoil, a vein or artery, a pipe, or any other structure in which fluid flow information is of interest. More particularly, that the arrows 12 show fluid flow over the grating 16. In Bohnert et al. there is no fluid flow over or along the fiber optic, rather there is static pressure applied transversely to the fiber optic. Accordingly, Applicant's disclosure is substantially different from that of Bohnert et al.

Applicant's claim 1 as filed recites:

A detector for sensing variations in properties of a fluid flowing in a boundary layer adjacent to the detector

This is substantially different from Bohnert et al. because as is clear from the Figures of Bohnert et al., the fluid is in the form of static fluid pressure applied transversely to the optical fiber. Note in Figs. 7a and 7bB of Bohnert et al. that the fluid does not flow over the optical grating, but is rather isolated from the optical grating and applied in a direction normal to the fiber. Note in Fig. 9 of Bohnert et al., that in order to measure velocity, the static pressure of the fluid is applied from a Venturi tube in a direction perpendicular to the fiber. Clearly, Bohnert et al. is not sensing variations and properties of fluid flowing "in a boundary layer" but is rather sensing properties of an entire mass of fluid. Accordingly, Bohnert et al. discloses a detector and method entirely different from that claimed by Applicants.

Applicant has amended claims 1 and 13 to clarify this difference by reciting that the optical pattern is exposed through a flowing fluid which is clearly not the case in Bohnert et al.

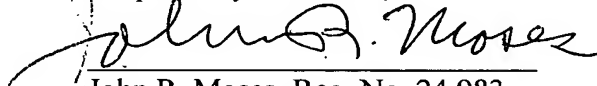
With respect to the obviousness question which led to the 35 U.S.C. §103(a) rejection, Applicant respectfully submits that claims 1 and 13 distinguish over Bohnert et al. for reasons other

than reciting a waveguide rather than an optical fiber, and that these other reasons render Applicant's claims unobvious.

In that this is a full and complete response to the Office Action of April 26, 2004, this application is now in condition for allowance. If the Examiner for any reason feels a personal conference with Applicants attorneys might expedite prosecution of this application, the Examiner is respectfully requested to telephone the undersigned locally.

The Commissioner is hereby authorized to charge any fees associated with this response or credit any overpayment to Deposit Account No. 13-3402.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "John R. Moses", is written over a horizontal line.

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